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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/849,144	05/04/2001	Ornan Alexander Gerstel	11685US03	9703
23446	7590	08/24/2004	EXAMINER	
MCANDREWS HELD & MALLOY, LTD 500 WEST MADISON STREET SUITE 3400 CHICAGO, IL 60661			WILSON, ROBERT W	
			ART UNIT	PAPER NUMBER
			2661	

DATE MAILED: 08/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/849,144

Applicant(s)

GERSTEL ET AL.

Examiner

Robert W Wilson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-17 is/are rejected.
- 7) ☒ Claim(s) 15-17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>5/4/01</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1.0 The application of Gerstel et. al. entitled "FAULT MANAGEMENT IN A MULTICHANNEL TRANSMISSION SYSTEM" which was filed on 5/4/01 and which sites priority based on provision application 60/009,3000 dated 12/29/95 was examined. Claims 12-17 are pending. Please be advised that the non-patent literature cited in the IDS could not be reviewed because it was not included in the case. If the applicant desires the non-patent literature to be considered then the examiner recommends that the applicant resubmit this material. Please refer to the returned IDS for further details.

Claim Rejections - 35 USC § 103

2.0 The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3.0 **Claims 12-17** are rejected under 35 U.S.C. 103(a) as being unpatentable over Shinbashi et. al. (U.S. Patent No.: 5,796,717)

Referring to **Claim 12**, Shinbashi teaches: A method for managing a communication system (Fig 7) comprising:

Connecting each line card in a group of line cards to a spare line card local port of a spare line card in the group of line cards (The WORKING UNITS or Group of Line Cards have an input which is connected to the Switches on the left side of Figure 7. The applicant has broadly claimed "local port". The examiner has interpreted the input to the SWITCHING UNIT on the left side of Figure 7 as "local ports" to the WORKING UNITS or Line Cards)

Upon detection of a failed line card in the group of line cards, rerouting an I/O port of the failed card through a local port of the failed line card to its spare line card local port, then to a spare

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line card link port (Failure of a WORKING UNIT per col. 2 lines 32-58 or col. 5 lines 5-36 results in the Switches on the left side of Figure 7 switching the INPUT to the WORKING SYSTEM or I/O to the input of the COMMON STAND-BY UNIT per Fig 7. Again the applicant has broadly claimed "local port". The examiner has interpreted the input to the SWITCHING UNIT on the left side of Figure 7 as a "local port" for both the WORKING UNIT and the COMMON STAND-BY UNIT)

Shibashi does not expressly call for: local port but teaches a common port at the input to the SWITCHING UNIT on the left side of Figure 7.

It would have been obvious to one of ordinary skill in the art at the time of the invention that the INPUT to the SWITCHING UNIT on the left side of the Figure 7 performs the same function as a local port.

In Addition Shinbashi teaches:

Regarding **Claim 13**, wherein the group of line cards includes an integer number of K of non-spare line cards, and wherein the spare line card includes at least k spare line card local ports (The examiner has interpreted this limitation as that there is a 1 for 1 redundancy as shown in Fig 6. In other words there Figure 6 shows a group of K WORKING UNITS or K Line cards which have K connections to the STAND-BY UNIT per Fig 6)

Regarding **Claim 14**, wherein rerouting comprises switching the I/O port of the failed line card through the local port of the failed line card to the spare line card local port, then switching the spare line card local port to the spare line card link port (The applicant has broadly claimed "local port". The examiner has interpreted the input to the SWITCHING UNIT on the left side of Figure 7 as "local ports" to the WORKING UNITS or Line Cards and the output of the SWITCHING UNIT switches on the left hand side of Figure 7 as the "local ports" for the COMMON STAND-BY UNIT also per Fig 7. Again rerouting is performed in the event of failed WORKING UNIT per col. 2 lines 32-58 or col. 5 lines 5-36)

Referring to **Claim 15**, Shibashi teaches: A communication sub-system (Communication subsystem per Fig 7)

A spare line card having a plurality of spare line card local ports (The applicant broadly claims "local ports". The examiner has interpreted the output from the SWITCHING UNIT on the left side of Figure 7 as "local ports" to the COMMON STAND-BY UNIT or Spare Line Cards),

a spare line card link port (The applicant has broadly claimed "link port". The examiner has interpreted the output of COMMON STAND-BY UNIT as a "link port) and a first switch for connecting the spare line care link port to one of the spare line card local ports (The examiner

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has interpreted "care" as a typing error which means "card". The left side of the SWITCHING UNIT performs the functions of the first switch as shown in Fig 7)

and a plurality of non-spare line cards (A plurality of WORKING UNITS or non-spare line cards per Fig 7),

each of the plurality of non-spare line cards having an I/O port (The applicant has broadly claimed "I/O port". The examiner has interpreted the INPUT on left side of Figure 7 as an "I/O port"),

a local port connected to one of the plurality of spare line card local ports (The applicant has broadly claimed "local port". The examiner has interpreted the input to the SWITCHING UNIT on the left side of Figure 7 as "local ports" to the WORKING UNITS or Line Cards as well as COMMON-STANDBY UNITS or spare line cards per Fig 7),

and a second switch for rerouting the I/O port of the local port to the spare line card local port upon determination of a failure (The SWITCHING UNIT on the left side of per Fig 7 is made up of two switches or a second switch).

Shibashi does not expressly call for: local port but teaches a common port at the input to the SWITCHING UNIT on the left side of Figure 7.

It would have been obvious to one of ordinary skill in the art at the time of the invention that the INPUT to the SWITCHING UNIT on the left side of the Figure 7 performs the same function as a local port.

In Addition Shinbashi teaches:

Regarding **Claim 16**, wherein the plurality of line cards includes an integer number of K of line cards, and wherein the spare line card input at least K spare line card local ports (The examiner has interpreted this limitation as that there is a 1 for 1 redundancy as shown in Fig 6. In other words there Figure 6 shows a group of K WORKING UNITS or K Line cards where there are K COMMON STANDBY UNITS each of which has a local input or K spare line card local ports per Fig 6)

Regarding **Claim 17**, wherein the first switch is at least a $1 \times (K+1)$ (The applicant broadly claims $1 \times (k+1)$ switch. The examiner interprets "at least K+1" as the sum of the number of inputs and outputs of the switch. The SWITCHING UNIT per Fig 7 has "at least K+1" inputs and output.)

DOUBLE PATENTING

4.0 **Claims 12-17** are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 5,729,527. Although the conflicting claims are not identical, they are not patentably distinct from each other because:

Referring to **Claim 12**, Claim 1 of U.S. Patent No. 5,729,527 teaches: a structure of 0-n-1 line cards wherein the line card at each end is a spare line card which backs up other line cards via switching I/O from local ports via switches. Claim 1 of U.S. Patent No.: 5,729,527 discloses a I/O is switched to a backup line card upon a line card failure via switches.

Claim 1 does not disclose: a single spare line card backing up a group of line cards but teaches two spare line cards backing up a group of line cards.

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize a single spare line card to back up a group of line cards instead of utilizing a pair of spare line cards to back up a group of cards in order to decrease the overall cost of the design.

In Addition:

Claims 13-14 are rejected to because they depend upon **claim 12**.

Referring to **Claim 15**, Claim 1 of U.S. Patent No. 5,729,527 teaches: 2 spare line cards among a total of 0 to n-1 line cards wherein the spare line cards back up other line cards via switching I/O from local ports via switches. Each of the line card cards output can be switched to a link port.

Claim 1 of U.S. Patent No.: 5,729,527 discloses a plurality of line cards which are non spare line cards in which I/O is switched to a backup line card upon a line card failure.

Claim 1 does not disclose: a single spare line card backing up a group of line cards but teaches two spare line cards backing up a group of line cards.

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize a single spare line card to back up a group of line cards instead of utilizing a pair of spare line cards to back up a group of cards in order to decrease the overall cost of the design.

In Addition:

Claims 16-17 are rejected to because they depend upon **claim 15**.

DOUBLE PATENTING

5.0 **Claims 12-17** are rejected under the judicially created doctrine of obviousness-type

double patenting as being unpatentable over claim 1 of U.S. Patent No.. Although the conflicting claims are not identical, they are not patentably distinct from each other because:

Referring to **Claim 12**, Claim 1 of U.S. Patent No. 6,256,293 teaches: a structure of n line cards wherein the line card wherein a spare line card is selected which backs up a group of K subscript I line cards via switching I/O from local ports via switches. Claim 1 of U.S. Patent No.: 6,256,293 discloses a I/O is switched to a backup line card upon a line card failure via switches.

Claim 1 does not disclose: a single spare line card backing up a group of line cards but teaches a group of K subscript I line cards is backed up by a single line card.

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize a single spare line card to back up a group of line cards instead of utilizing a spare line card to back up a group of K subscript I cards .

In Addition:

Regarding **Claim 13**, Claim 2 of U.S. Patent No.: 6,256,293 teaches: design choice to define a group as K non spare line cards instead of a group of K subscript I cards and a at least K spare line card ports.

Regarding **Claim 14**, Claim 1 of U.S. Patent No.: 6,256,293 teaches: wherein rerouting comprises switching the I/O port of the failed line card through the local port of the failed line card to it spare line card local port, then switching the spare line card local port to the spare line card link port.

Referring to **Claim 15**, Claim 1 of U.S. Patent No. 6,256,293 teaches: a spare line cards among a total of n line cards wherein the spare line card backs up a group of K subscript I line cards and wherein the spare line cards back up other line cards via switching I/O from local ports via switches. Each of the line card cards output can be switched to a link port.

Claim 1 of U.S. Patent No.: 6,256,293 discloses a plurality of line cards which are non spare line cards in which I/O is switched to a backup line card upon a line card failure.

Claim 1 does not disclose: a single spare line card backing up a group of line cards but teaches a group of K subscript I line cards is backed up by a single line card.

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It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize a single spare line card to back up a group of line cards instead of utilizing a spare line card to back up a group of K subscript I cards .

In Addition:

Regarding **Claim 16**, Claims 1 & 2 teach a plurality of N line cards of a integer number of line cards wherein the local number of card as k local ports. The examiner takes official notice that 1:N redundancy is well known in the art per Fig 7 of U.S. Patent No.: 5,796,717. It would have been obvious to one of ordinary skill in the art at the time of the invention to make N each to K in order to provide 1:N redundancy.

Regarding **Claim 17**, Claim 5 teaches switch for switching to the failed line card. The examiner takes official notice that 1:K redundancy is well known in the art per Fig 7 of U.S. Patent No.: 5,796,717. It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize a switch with at least K+1 inputs and output in order to support to provide 1:K redundancy.

Claim Objections

6.0 **Claims 15-17** are objected to because of the following informalities:

Referring to Claim 15, the applicant has misspelled "card" as "care" in the phrase "and a first switch for connecting the spare line **care** link port to one of the spare line card local ports". Appropriate correction is required.

In Addition:

Claims 16-17 are objected to because they depend upon claim 15.

Conclusion

7.0 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert W Wilson whose telephone number is (703) 305-4102.

The examiner can normally be reached on M-F (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor,

Douglas Olms can be reached on (703) 305-4703. The fax phone numbers for the organization

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where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.



Robert W Wilson
Examiner
Art Unit 2661

RWW

August 19, 2004



DANGSTON
PRIMARY EXAMINER